

CLAIM;

Claim 1 (new)

Anaglyphic production method for anaglyphic record of fixed color channel orientation, still or motion, image or text, in color format by either digital or non-digital means in whole or in part, including steps of;

- a. isolating two separate records of image or text and or synchronizing the images of a stereo pair to achieve an image pair that consists of a first image or images and a second image or images;
- b. effecting selective color filter treatments to the color records of the first and second images of step a, to enable contrasts from the whole spectrum to be perceived anaglyphically from within the part spectrums of assigned anaglyphic color channel saturations effected below and enable perception of an anaglyphically viewed contrast balance between the said image pair;
- c. effecting selective control for increasing the overall brightness by selectively increasing the saturation of the black color records of the image pair to the nth degree and effecting selective control for decreasing the overall brightness by selectively decreasing the saturation of the black color records of the image pair to the nth degree;
- d. effecting a compression of the luminosity of the image pair to the nth degree;
- e. effecting a first anaglyphic color channel saturation applied to the said first image or images and effecting second and third anaglyphic color channel saturations to the said second image or images resulting in spectrally opposite anaglyphic color channel saturations;
- f. blending the said image pair as a single record so as to reveal equal representations of the said image pair in a resulting composite image;
- g. contrast expansion of the said composite image to maximize contrasts of the anaglyphic color channels contained therein.

Claim 2 (new)

Anaglyphic production method as claimed in claim 1 where the said selective color filter treatments are applied either to individual color records or to the entire color records to the nth degree.

Claim 3 (new)

Anaglyphic production method as claimed in claim 1, where the color records of both or either of the said image pair are de-saturated instead of the said selective color filter treatments.

Claim 4 (new)

Anaglyphic record of fixed color channel orientation produced in accordance with the anaglyphic production method of claim 1, that may be sent or received on-line, stored and reproduced from a recording medium and be sent or received as broadcast that may exhibit;

- a. printed image perceived stereoscopically as three-dimensional and being monochromatic or colored image with balanced contrasts from the whole color spectrum within each anaglyphic color channel via color corresponding anaglyphic filter means with spectral split;
- b. individual color channels of printed exhibit a, being unrelated or interrelated perceived as

- two-dimensional and monochromatic with contrasts from the whole color spectrum via common frequency filter;
- c. monitor or projection display of still or motion anaglyphic record perceived stereoscopically as three-dimensional and being monochromatic or colored image with balanced contrasts from the whole color spectrum within each anaglyphic color channel via color corresponding anaglyphic filter means with spectral split;
- d. individual color channels of monitor or projection exhibit c, being unrelated or interrelated perceived as two-dimensional and monochromatic with contrasts from the whole color spectrum via common frequency filter;
- e. individual color channels of exhibit d, perceived unaided as two-dimensional with balanced contrasts from the whole color spectrum via active or passive selective color record removal means.

Claim 5 (new)

Apparatus for the display of anaglyphic record of fixed color channel orientation as claimed in claim 4, the apparatus comprising;

- a. said anaglyphic record of fixed color channel orientation;
- b. a printing means of color format for the reproduction of said fixed color channels as printed display;
- c. a display medium on which to receive an exposure or print of said anaglyphic record from said printing means;
- d. a monitor or projection display of color format for the display of said anaglyphic record;
- e. anaglyphic filter viewing gels of opposing spectral frequencies and of fixed viewing orientation that correspond to the color channels of said anaglyphic record;
- f. anaglyphic filter viewing gel of common frequency and of neutral viewing orientation that enable the selective and passive transmission of said fixed color channels;
- g. an active selective color record removal means that actively removes color from the anaglyphic record displayed on part d, to enable unaided two-dimensional monochromatic perception of selected color channels;
- h. a passive selective color record removal means consisting of an anaglyphic filter element that covers or is integral with part d, to effect passive color removal of a fixed color channel to enable unaided two-dimensional monochromatic perception of selected color channels;

Claim 6 (new)

Modulating anaglyphic color channel production method where the anaglyphic record of fixed color channel orientation as claimed in claim 1, modulates between anaglyphic display orientations, including steps of;

- a. alternating or switching the said image pair between the said anaglyphic display orientations in a cycle to establish a modulation rate;
- b. effecting the application of index or synchronizing signals or pulses to the incidence of said modulation, alternation or switching at a consistent frequency.

Claim 7 (new)

Modulating anaglyphic color channel display produced as claimed in claim 6 that may be sent or

received on-line, stored and reproduced from a recording medium and be sent or received as broadcast, that may exhibit;

- a. still or motion interrelated image or text perceived stereoscopically as three-dimensional with balanced contrasts from the whole color spectrum either as monochromatic or as full color record simultaneously and continuously by both eyes from a multiplex of color image planes contained in modulating anaglyphic color channels via synchronized and color corresponding electro-optic/anaglyphic means;
- b. still or motion image from either visual channel of still or motion exhibit a, being unrelated or interrelated perceived unaided as two-dimensional with contrasts from the whole color spectrum either as monochromatic or as full color record simultaneously and continuously by both eyes from a multiplex of color image planes contained in a modulating anaglyphic color channel via active or passive modulating color record removal synchronous with a selected modulating color channel.

Claim 8 (new)

Apparatus for the display of modulating anaglyphic color channels as claimed in claim 7,
the apparatus comprising;

- a. said modulating anaglyphic color channel display;
- b. a first power supply enabling a signal detection means for the detection of synchronizing signals and field differentiated signals from the modulating program of part a, to differentiate between frames and to determine the programs modulation rate and accordingly produce signals as representations of synchronizing signals and of the modulation rate for the transmission means of part g, and for the color removal means of part c, and the switching logic means of part e;
- c. a color removal means that responds to the signal detection means of part b, for a conversion from a modulation of two anaglyphic display orientations to a modulation of more than two anaglyphic display orientations by effecting a selective and active removal of color saturations from the modulating anaglyphic record of part a, in a cycle of consistent frequency;
- d. in conjunction with part c, a selective color luminance reducing means effecting a sustained reduction of brightness or output level of luminosity of a color saturation proportionate to it's relative over-inclusion in a modulating cycle of color channels;
- e. a switching logic means that responds to the signal detection means of part b, to synchronise a cycle of two or more frames and produce a synchronising voltage selection for the modulating color record removal means of parts l and m;
- f. a reproduction and display monitor, screen or projection means of color format for the reproduction and display of said modulating anaglyphic color channels;
- g. a transmission means for the transmission of signals representing synchronizing signals and signals representing the modulation rate from the signal detection means of part b, to a receiving means of part h, incorporated with electro-optic/anaglyphic viewing filters of parts j and k;
- h. a second power supply enabling a receiving means to receive a transmitted signal from said transmission means and to detect and re- generate signals representing synchronizing signals and signals representing the modulation rate for their delivery to a switching logic means of part i;
- i. a switching logic means, that responds to said signals from the receiving means of part h, that synchronises a cycle of two or more frames and selects trigger voltages for the synchronisation of electro-optic/anaglyphic filter presentations of parts j, and k, with said modulating anaglyphic color channel display;

- j. electro-optic/anaglyphic filters consisting of a pair of electro-optic light modulating filter elements that respond to the synchronizing voltage selection of switching logic of part i, and present transitions between two filter presentations of anaglyphically opposing hues that together allow the transmission of three color saturations with a transmission of a first color saturation through one filter and a transmission of second and third color saturations through the opposing filter;
- k. electro-optic/anaglyphic filters consisting of a pair of electro-optic light modulating filter elements that respond to the synchronizing voltage selection of switching logic of part i, and present transitions between more than two filter presentations of anaglyphically opposed hues;
- l. a modulating active color record removal means that responds to the synchronising voltage selection of switching logic of part e, to effect a modulating cycle of active color removal synchronous with either selected modulating anaglyphic color channel to isolate an opposing modulating anaglyphic color channel for unaided two-dimensional perception;
- m. a modulating passive color record removal means consisting of an electro-optic/anaglyphic filter element that covers or is integral with the monitor or screen display of part f, that responds to the synchronising voltage selection of switching logic of part e, to effect a modulating cycle of passive color removal synchronous with either selected modulating anaglyphic color channel to isolate an opposing modulating anaglyphic color channel for unaided two-dimensional perception;

Claim 9 (new)

Printed anaglyphic/lenticular production method, manual or automated, for the production of multiple concurrent and interactive still or motion anaglyphic visual channels in color format on a printed surface, including steps of;

- a. Anaglyphic production method as claimed in claim 1, applied to multiple image pairs resulting in multiple anaglyphic images of fixed viewing orientation;
- b. horizontally interpolating the anaglyphic images of step a, at a frequency such that the interpolated representations of each of the anaglyphic images are specific to horizontal zones that will fit under each corresponding horizontally oriented lenticular lens of steps e, and f;
- c. delivering the interpolated anaglyphic images of step b, to a printing means of step d;
- d. printing the said interpolated anaglyphic images onto a display medium as printed anaglyphic record;
- e. securing a horizontally oriented lenticular lens array over the display medium of step d, so that interpolated anaglyphic image representations specific to each horizontal zone fit under each lenticular lens;
- f. horizontally inverting the interpolated anaglyphic images of step c, for where the said display medium of step d, is integral with under-surface of the horizontally oriented lenticular lens array of step e.

Claim 10 (new)

Printed anaglyphic/lenticular image display produced in accordance with the production methods as claimed in claim 9, that may be sent or received on-line and stored and reproduced from a recording medium where the anaglyphic images exhibit;

- a. multiple records of unrelated image or text perceived two-dimensionally with contrasts from the whole spectrum from within either anaglyphic color channel via common filter anaglyphic means;

- b. multiple records of interrelated image or text specific to each color channel displaying two concurrent two-dimensional records of motion perceived with contrasts from the whole spectrum via common filter anaglyphic means;
- c. multiple unrelated stereoscopic views perceived horizontally vertically or diagonally as three-dimensional as monochromatic or as colored images with balanced contrasts from the whole color spectrum from both anaglyphic color channels via color corresponding anaglyphic filters;
- d. multiple interrelated stereoscopic views of concurrent horizontal, vertical and diagonal parallax and motion perceived as monochromatic or as colored images with balanced contrasts from the whole spectrum from both anaglyphic color channels via color corresponding anaglyphic filters.

Claim 11 (new)

Apparatus for the display of anaglyphic/lenticular images as claimed in claim 10,
the apparatus comprising of;

- a. said anaglyphic/lenticular images;
- b. securable lenticular sheet consisting of an array of lenticular lenses of suitable pitch or frequency that enable an interactive visual channelling of said images, from a display medium of part d, contiguous with it's underside, via refraction;
- c. a printing means, of color format for the reproduction of anaglyphic color channels;
- d. a display medium on which to receive said images from the printing means of part c;
- e. a display medium integral with the lenticular sheet of part b, on which to receive an exposure of said images from the printing means of part c;
- f. anaglyphic filter viewing gels of single filter frequency that correspond to a selected anaglyphic color channel;
- g. anaglyphic filter viewing gels of fixed viewing orientation and of opposing spectral frequencies that correspond to the color channels of said anaglyphic/lenticular images.

Claim 12 (new)

Quadrascopic/anaglyphic production method of fixed or modulating color channel display, digital or non digital in whole or in part, for the concurrent and interactive display of four separate visual channels consisting of two separate still or motion anaglyphic records of image or text from one image signal, comprising steps of;

- a. isolating two image pairs being either unrelated or interrelated;
resulting in two anaglyphic records;
- b. modulating the two image pairs between an anaglyphic production method at any rate selected including no modulation, resulting in two anaglyphic records;
- c. field interpolating the two anaglyphic records of step b, into one image signal;
- d. displaying the image signal of step c, on a reproduction and display means of color format that delivers vertical visual parallax to effect an upper and lower visual channelling of the said anaglyphic records;
- e. delivery of horizontally inverted interpolated record of step c, to a printing means.

Claim 13 (new)

Quadrascopic/anaglyphic image display produced as claimed in claim 12 that may be sent or received on-line, stored and reproduced from a recording medium and sent and received as broadcast, that may exhibit;

- a. monitor or projection screen display of four separate visual channels being anaglyphic record of image or text that may be unrelated or interrelated in whole or in part across horizontal, vertical and diagonal image pair combinations where also combinations of still and motion record and combinations of two and three-dimensional record and combinations of monochromatic and full color record and combinations of modulation rate all interrelate, including the full color perception to both eyes simultaneously of concurrent horizontal, vertical and diagonal parallax and motion from a multiplex of color image planes contained within modulating anaglyphic channels with balanced contrasts from the whole spectrum from one image signal;
- b. an unaided two-dimensional monochromatic or full colored interactive choice of two visual channels from each modulating anaglyphic channel of monitor or projection screen display exhibit a, via active or passive modulating color record removal synchronous with a selected modulating color channel;
- c. printed display of four separate visual channels of anaglyphic record of image or text that may be unrelated or interrelated in whole or in part across configurations between horizontal, vertical and diagonal image pairs and also combinations of two and three-dimensional record and combinations of monochromatic and color record including, color perception of concurrent horizontal, diagonal and vertical parallax with spectral split perceived via color corresponding anaglyphic filter gel with spectral split;

Claim 14 (new)

Apparatus for the display of quadrascopic/anaglyphic images as claimed in claim 13, the apparatus comprising of;

- a. Quadrascopic/anaglyphic image that may be sent or received on-line, stored and reproduced from a recording medium and be sent or received as broadcast;
- b. a first power supply means enabling a signal detection means for the detection of synchronizing signals and field differentiated signals from the intercepted modulating program of part a, to differentiate between frames and determine the programs modulation rate and accordingly produce signals as representations of synchronizing signals and of the modulation rate for transmission part g, and for the active color removal means of part c, and the switching logic means of part e;
- c. an active color removal means that responds to the signal detection means of part b, for a conversion from a mode of modulation of two anaglyphic display orientations to a mode of modulation of more than two anaglyphic display orientations by effecting a selective and alternate active removal of color records from the intercepted modulating anaglyphic record of part a, in a cycle of consistent frequency;
- d. in conjunction with part c, a selective color luminance reducing means effecting a sustained reduction of brightness or output level of luminosity of a color record proportionate to it's relative over-inclusion in a cycle of modulating color channel orientations;
- e. a switching logic means that responds to the signal detection means of part b, to synchronize a cycle of two or more frames and produce a synchronizing voltage selection for the modulating color record removal means of parts l and m;

- f. a reproduction and display means of color format that delivers vertical parallax to effect an upper and lower visual channelling;
- g. a transmission means for the transmission of signals representing the index or other such synchronizing signals and signals representing the modulation rate to a receiving means incorporated with electro-optic/anaglyphic viewing filters of parts j or k;
- h. a second power supply means enabling a receiving means to receive said transmitted signals and to detect and re-generate signals representing the index or other such synchronizing signals and signals representing the modulation rate for their delivery to a switching logic means of part i;
- i. a second switching logic means that responds to synchronizing signals and signals representing the modulation rate from the receiving means of part h, that synchronizes a cycle of two or more frames and selects trigger voltages for the synchronization of electro-optic/anaglyphic filter presentations of parts j or k with modulating quadrascopic/anaglyphic image displays;
- j. electro-optic/anaglyphic filters consisting of a pair of electro-optic light modulating filter elements that respond to the synchronizing voltage selection of switching logic of part i and present transitions between two filter presentations of anaglyphically opposing hues that together allow the transmission of three color saturations with a transmission of a first color saturation through one filter and a transmission of second and third color saturations through the opposing filter and;
- k. electro-optic/anaglyphic filters consisting of a pair of electro-optic light modulating filter elements that respond to the synchronizing voltage selection of switching logic of part i, and present transitions between more than two filter presentations of anaglyphically opposed hues;
- l. a passive selective color record removal means consisting of an anaglyphic filter element that covers or is integral with part b, that may modulate to effect passive removal of an anaglyphic color channel to isolate an opposing channel for an unaided two-dimensional interactive viewing choice between its two visual channels;
- m. an active selective color record removal means that responds to the switching logic of part e, that may modulate to effect an active removal of an anaglyphic color channel to isolate an opposing channel for an unaided two-dimensional interactive viewing choice between its two visual channels;
- n. a printing means, of color format for the reproduction of two anaglyphic color channels representing said quadrascopic/anaglyphic images displayed under a display medium of part o;
- o. a display medium on which to receive a print or exposure of said color channels from said printing means where such display medium is integral lenticular sheet;
- p. anaglyphic filter viewing gels of opposing spectral frequencies and of fixed viewing orientation that correspond to anaglyphic color channel displays of parts f, or o;
- q. anaglyphic filter gel of common filter frequency that corresponds to an anaglyphic color channel display of parts f, or o.

Claim 15 (new)

Autostereoscopic quadrascopic/anaglyphic production method, digital or non digital in whole or in part, for a selectable choice between two autostereoscopic programs of fixed or modulating color channel display from one image signal, comprising steps of;

- a. the quadrascopic/anaglyphic production method as claimed in claim 12 where the two originating

image pairs consist of two left views for a first anaglyphic record and two right views for a second anaglyphic record;

- b. effecting a selective active or passive color record removal from the said anaglyphic records to enable an autostereoscopic perception of remnant color records from a display means of step c;
- c. displaying the said remnant color records onto a color reproduction and display means that delivers horizontal visual parallax to effect left and right visual channelling.

Claim 16 (new)

Autostereoscopic quadrascopic/anaglyphic image of fixed or modulating color channel display as claimed in claim 15 that may be sent or received on-line, stored and reproduced from a recording medium and sent and received as broadcast that may exhibit;

- a. a switch-able choice between two separate autostereoscopic visual channels of anaglyphic record that may be unrelated or interrelated where also combinations of selected color record removal and selective modulating color record removal and combinations of two and three-dimensional record and combinations of still and motion record and combinations of monochromatic and full color record and combinations of modulating display rates all interrelate, including the selectable choice between two concurrent and interrelated autostereoscopic programs of horizontal and vertical parallax and motion from one image signal perceived in full color to both eyes simultaneously from a multiplex of color image planes contained within remnant modulating anaglyphic color channels via horizontal visual parallax delivery and active or passive modulating color record removal synchronous with a selected modulating anaglyphic color channel.

Claim 17 (new)

Apparatus for the display of autostereoscopic quadrascopic/anaglyphic image as claimed in claim 16 comprising of;

- a. autostereoscopic quadrascopic/anaglyphic image as claimed in claim 16;
- b. a first power supply means enabling a signal detection means for the detection of synchronizing signals and field differentiated signals from the intercepted program of part a, to determine the programs modulation rate and accordingly produce signals as representations of synchronizing signals and of the modulation rate for a switching logic means of part c;
- c. a switching logic means that responds to the signal detection means of part b, to synchronize a cycle of two or more frames and produce a synchronizing voltage selection for the color record removal means of parts d and e;
- d. an active color record removal means that responds to the switching logic of part c, to remove a color record or a modulating cycle of color records that correspond to and synchronize with a selected color channel or cycle of modulating anaglyphic color channels, that contain one or more visual channels, from the image signal for the reproduction and display means of part f;
- e. a passive color record removal means consisting of a modulating electro-optic/anaglyphic filter element that covers or is integral with the reproduction and display means of part f, and responds to the synchronizing voltage selection of switching logic of part c, to effect a passive color removal or a cycle of modulating passive color removal that correspond to and synchronize with a selected color channel or a cycle of modulating anaglyphic color channels displayed on the reproduction and display means of part f;

- f. a reproduction and display monitor, screen or projection means of color format that delivers horizontal visual parallax to effect left and right visual channelling.

Claim 18 (new)

Quadrascopic/strobe production method, digital or non digital in whole or in part, for still or motion display of four visual channels where the anaglyphic production of claim 12, is bypassed resulting in a sequential strobe of two left and two right images, including steps of;

- a. isolating two image pairs as a left image pair and a right image pair;
- b. field interpolating together a left image pair of step a, to result in a left interpolated record;
- c. field interpolating together a right image pair of step a, to result in a right interpolated record;
- d. frame interpolating the left interpolated record of step b, with the right interpolated record of step c;
- e. effecting the application of index or synchronizing signals or pulses to the incidence of said interpolation or switching at a consistent frequency;
- f. displaying the resulting quadrascopic strobe image on a reproduction and display monitor screen or projection means that delivers vertical parallax so as to effect an upper and lower visual channelling of the said images.

Claim 19 (new)

Quadrascopic/Strobe image display produced as claimed in claim 18 that exhibits;
 an interactive choice between four separate visual channels of image or text that may be unrelated or interrelated in whole or in part across horizontal, vertical and diagonal image pair combinations and where also combinations of two and three-dimensional record and combinations of still and motion record and combinations of monochromatic and full color record and combinations of modulation rates all interrelate, including the interactive choice between two concurrent and interrelated stereoscopic programs of horizontal, vertical and diagonal parallax and motion from one image signal perceived in full color to both eyes from an alternating left- right sequential strobe display via vertical visual parallax delivery and synchronous electro-optic/shutter glasses.

Claim 20 (new)

Apparatus for the display of quadrascopic/strobe as claimed in claim 19;

- a. quadrascopic/strobe image produced as claimed in claim 18 that may be sent or received on-line, stored and reproduced from a recording medium and be sent or received as broadcast;
- b. a first power supply means enabling a signal detection means for the detection of synchronizing signals and field differentiated signals from the quadrascopic/strobe program of part a, to determine the strobe rate and accordingly produce signals as representations synchronizing signals and of the strobe rate for transmission part d;
- c. a reproduction and display monitor screen or projection means that delivers vertical parallax so as to effect an upper and lower visual channelling;
- d. a transmission means for the transmission of said signals to a receiving means incorporated with electro-optic/shutters of part g;
- e. a second power supply means enabling a receiving means to receive said transmitted signals and to detect and re-generate said signals for their delivery to a switching logic means of part f;

- f. a switching logic means for the determination and selection of trigger voltages for the synchronization of electro-optic/shutter presentations of part g, with said quadrascopic/strobe image displayed on part c;
- g. electro-optic/shutter glasses consisting of a pair of electro-optic light valve elements that respond to the synchronizing voltage selection of switching logic of step f and present alternations between open and shut states so that at any instant one light valve is open for view and the other light valve is shut for view.

Claim 21 (new)

Anaglyphic Isolation method for the isolation of a selected anaglyphic color channel that contains one or more visual channels, by means of;

- a. selectively removing by active or passive means, a color record or a modulating cycle of color records that correspond to and synchronize with a selected anaglyphic color channel or cycle of modulating anaglyphic color channels, to isolate one or more visual channels;
- b. displaying the isolated visual channel of step a, on a reproduction and display means of color format for unaided viewing.

Claim 22 (new)

An image isolation means, for the production of anaglyphic images, being a scanner or digitiser of images or a stereoscopic camera for still or motion capture of an image pair, having software processing or integrated circuitry components that may also processes externally sourced input signals that effect the anaglyphic production method as claimed in claim 1.

Claim 23 (new)

An image isolation means as claimed in claim 22, having components that effect the modulating anaglyphic production method as claimed in claim 6.

Claim 24 (new)

An image isolation means as claimed in claim 22, having components that effect the printed anaglyphic production method as claimed in claim 9.

Claim 25 (new)

An image isolation means as claimed in claim 22, having components that effect the quadrascopic/anaglyphic production methods as claimed in claim 12.

Claim 26 (new)

An image isolation means as claimed in claim 22, having components that effect the autostereoscopic/anaglyphic production methods as claimed in claim 15.

Claim 27 (new)

An image isolation means as claimed in claim 22, having components that effect the quadrascopic/strobe production methods as claimed in claim 18.